CHAPTER 1

INTRODUCTION

1-1. Purpose. This guide contains design criteria and general requirements to be used in the development of U.S. Army Reserve facilities (Figure l-l). This guide provides a comprehensive means by which the functional criteria may be conveyed by the Using Service (Office of the Chief, Army Reserve), for Military Construction Army Reserve (MCAR) projects and the Support Installation for MCAR projects to the Design Agency (Corps of Engineers, other engineering commands and consulting architectural and engineering firms) charged with the planning of a facility. This guide is also intended to aid in the formulation of project documentation for inclusion in military construction programs.

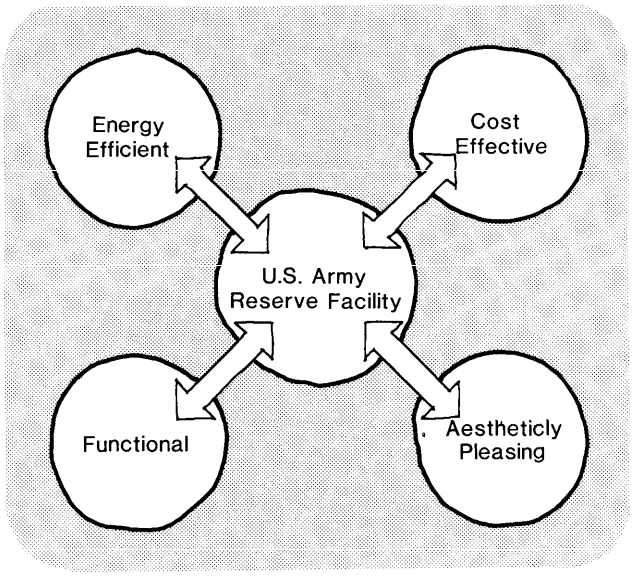

Figure 1-1. Design criteria and requirements.

1-2 . Scope.

a. This guide is applicable to all new construction projects for U.S. Army Reserve facilities and as a general guide in the modernization of existing facilities (Figure 1-2). Only the more common or typical features associated with U.S. Army Reserve facilities are addressed. The guide deals primarily with training center buildings and vehicle maintenance shops which directly support a training facility or group of facilities.

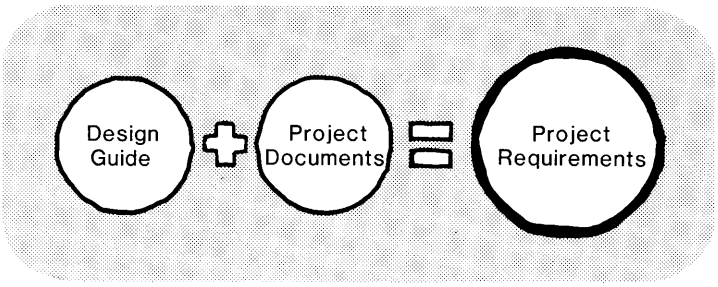

Figure 1-2. Project requirements.

b. The intent of the guide is to provide some of the general information and guidance required for the successful preparation of project designs. Additional specific information and guidance must be obtained from the Design Agency and Using Service on such matters as local codes, site constraints and project scope.

c. Unless otherwise noted, all built-in equipment and furnishings required by this guide will be contractor furnished and installed. The cost of these items is included in the construction contract. Moveable equipment, furnishings or specialty items will be furnished by the Using Service and installed under separate contract. See appendix A for list of items funded with Operation & Maintenance Army Reserve (OMAR) funds.

1-3. Format.

a. The Design Guide format is intended to facilitate the development of project requirements and designs by dealing with major criteria on both a general and specific level.

b. Chapter 2 provides an overview of the required individual spaces and buildings required for a complete and useable facility. Chapter 3 provides guidelines for developing the overall design of the facility. Chapter 4 provides guidelines by discipline for the building systems.

c. Illustrations in this guide represent possible applications of the criteria and are not intended to be definitive. The Design Agency is encouraged to be creative throughout the design process. Local conditions, codes and specific project requirements shall be major design considerations in the development of a total, integrated facility.

1-4. Responsibilities.

a. The Using Service is responsible for:

(1) Determining functional requirements.

(2) Approving functional requirements that extend beyond the scope of this guide.

(3) Preparing and submitting project documentation (DD Forms 1390 and 1391 and supporting data) in accordance with AR 140-478.

(4) Approving concept designs to certify compliance with functional requirements.

(5) Developing additional information, as required, such as telephone needs, special electrical requirements and equipment specifications.

b. The Design Agency is responsible for:

(1) Incorporating the functional requirements of the Using Service into the project design.

(2) Developing a design responsive to the criteria in this guide and the project documentation.

(3) Justifying in the project design analysis any areas of design which do not follow this guide.

(4) Emphasizing the quality standards for the overall design as stated herein.

(5) Ensuring that the design is in compliance with applicable codes and standards.

(6) Preparing cost estimates (Current Working Estimates [CWE codes A, B, and C]).

c. The Supporting Installation is responsible for:

(1) All the responsibilities of the Using Service for Minor Military Construction Army Reserve (MMCAR) and OMAR construction.

(2) Providing the Design Agency with as-built drawings of existing construction.

(3) Providing an up-to-date and complete Backlog of Maintenance and Repair (BMAR) list.

(4) Providing a copy of all outstanding work orders.

(5) Providing a COPY of the current 416th Engineering Command Survey Team's Report.

(6) Providing a condition survey.

1-5. Quality of design.

a. The Design Agency must seek design excellence through commitment to high standards. Success in achieving this objective lies not in the repetition of previous design solutions but in relating to the Using Service and responding to their specific needs.

b. The concept of total systems design will be emphasized in promoting the development of a functional, energy efficient and aesthetically pleasing building. Design concepts must evolve in a multi-disciplinary manner with regard to architectural, civil, structural, electrical and mechanical systems.

c. In evaluating the cost impact of design decisions, the designer will consider the life cycle cost effectiveness, not just the initial cost.

1-6. Mission and purpose of the U.S. Army Reserve.

a. The mission of the Army Reserve is to maintain a force of combat ready units for augmentation and expansion of the active force in time of need.

b. The Army Reserve accomplishes its mission by performing training. Therefore, a Reserve center is a training center.

(1) The individual soldier is given hands-on training in the skills of his job with particular emphasis on the operation and maintenance of equipment.

(2) Unit training is accomplished by progressively larger and larger elements to perform the mission as a team.

c. Every functional space in a Reserve center is intended to be primarily a training space. For example:

(1) The primary purpose of a kitchen is to allow cooks to train. The secondary purpose is to feed the troops.

(2) The primary purpose of the organizational maintenance shop (OMS) is to allow the training of mechanics. The secondary purpose is to maintain vehicles.

(3) The primary purpose of office space is to allow the training of clerical personnel. The secondary purpose is to do paperwork.

d. A Reserve Center is an institutional building with both community and national characteristics. The center is the home station for the local unit composed of individuals sharing experiences of personal action on behalf of the community much in the same way as a volunteer fire department. At the same time, as a U. S. Army installation, it represents the entire Army. Thus the design of the building must reflect the Reservist's feelings of patriotism, pride and community participation as well as a sense of the purpose of the

U.S. Army: to keep the peace by maintaining a strong and capable organized military force.

1-7. Program synopsis.

a. Chapter 3 delineates the functional and environmental requirements for most individual spaces within the training center and maintenance buildings. Not all projects include all of the spaces, nor are all of the possible types of spaces included in this design guide. Specific information on the types and sizes of spaces authorized are determined by the project documentation. The Design Agency will supplement the information in chapter 2 at the initial design conference.

b. A typical facility consists of two major components: the training center and related maintenance facilities.

c. The training center generally consists of four main functional groups: administrative, classroom, assembly and unit storage. Supporting these main functional groups are general and special support areas. Within each group are subordinate functional areas which contribute to the operation of the group.

(1) The administrative group consists of office space, support space and training areas:

(a) Exclusive office space is dedicated space for unit supervisors and full time employees.

(b) Common office space is shared space for non-supervisory unit administrative personnel. This space will be used by different units on different drill weekends.

(c) Support space includes such functions as message centers, reproduction rooms, conference rooms, retention offices and administrative storage.

(d) Special areas include such areas as drafting rooms, medical wings and photo labs.

(2) The classroom group consists of classrooms, library, audio-visual learning center, communications security storage/classroom and training aid storage. These areas provide instructional space for reservists during weekend training periods and testing areas for potential members.

(3) The assembly group consists of the assembly hall, food service and table and chair storage. The main element of the assembly group is a multi-purpose space for assembly. The hall serves as a large classroom, a practical training area, a dining room, and for drill and ceremonies. Related areas consist of food service facilities, and table and chair storage.

(4) The unit storage group consists of unit supply rooms, unit storage rooms, unit supply offices and unit locker storage rooms. This group is closely related to the assembly group which provides the training space for use

of the equipment issued from the storage group.

(5) The training center also contains general support areas and special areas on a special allocation basis.

(a) General support areas include toilets, mechanical equipment, electrical equipment, telephone equipment, janitorial and facility maintenance storage.

(b) Special areas include indoor rifle ranges, tank turret trainers, simulators and large, high bay equipment, indoor training areas.

d. Maintenance facilities consist of organizational maintenance shop (OMS), direct support and general support maintenance shop (DS/GS), an area a maintenance support activity (AMSA) and a maintenance branch of equipment concentration site (ECS).

(1) These facilities may be collocated with a training center and with each other. When collocated, workbays will be shared.

(2) OMS and DS/GS Shops are used primarily to train reserve mechanics, although some full time employees may be assigned to these facilities. The ancillary shop areas for AMSA, such as the shop offices, tool rooms, flammable storage, battery rooms, mechanical rooms, custodial areas and work bays are similar to those of OMS in functional requirements; therefore, refer to the OMS individual space criteria in section 3-8 for these similar AMSA spaces. In addition to these standard areas, AMSA is often authorized additional special maintenance offices, such as a small arms repair and electronic/communications repair. In conjunction with the small arms repair, provide either a safe or an arms vault constructed according to the same standards as the arms vault in the training center building. Since the AMSA is staffed by full time employees, a break room, locker rooms and toilet rooms will be provided.

(3) AMSA and ECS maintenance facilities have the same requirements and will both be referred to as AMSA. These shops are used primarily to service vehicles using a full time staff. The bulk of maintenance work is performed in these shops (Table l-l).

TABLE 1-1. Common AMSA configurations.

	Operation	Configuration
(1)	Separate location, supporting USAR units in a geographical area.	AMSA building, asphalt military equipment parking (MEP) area, and privately owned vehicles (POV) parking area.
(2)	Collocated at USAR with OMS, supporting USAR units in geographical area.	AMSA/OMS building (work bays shared), MEP area. (POV parking shared at facilities).
(3)	Separate location, supporting only an ECS.	AMSA building, MEP area, POV parking area (other ancillary facilities only as provided for on project docu-

e. An ECS is a large storage site with outdoor parking areas and enclosed warehousing of military equipment. The ECS is located at a military installation. The ECS is designed not only to store equipment but also to efficiently issue and return equipment used in training exercises. Facilities which may be associated with an ECS, as provided for in the project documentation, are the parking hardstand, fuel dispensing system, loading ramp, wash platform, indoor equipment storage warehouse, combat vehicle arms vault, fencing, security lighting and an AMSA.